

CLAIMS

1. A pipe blanket for wrapping around and insulating a pipe comprising
5 an insulation mat having an outer surface and an inner surface adapted to enclose the pipe when the pipe blanket is wrapped around the pipe,
an outer cover coupled to the outer surface of the insulation mat, and
closure means configured for securing the insulation mat and outer
cover about the pipe,
10 wherein the insulation mat is configured to enclose a variety of pipes having different sized diameters.
2. The pipe blanket of claim 1, wherein the closure means comprises a flap coupled to a portion of the outer cover and an adhesive coupled to an
15 underside of the flap to couple the flap to another portion of the outer cover when the pipe blanket is wrapped around a pipe.
3. The pipe blanket of claim 2, wherein the adhesive of the closure means includes a weak adhesive portion and a strong adhesive portion
20 adjacent the weak adhesive portion.
4. The pipe blanket of claim 3, wherein the weak adhesive portion is a temporary adhesive provided for initial positioning of the pipe blanket about the pipe and the strong adhesive portion is a substantially permanent adhesive.
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5. The pipe blanket of claim 3, wherein the closure means further includes a removable release strip covering the strong adhesive.
6. The pipe blanket of claim 1, wherein the closure means is a
30 hook-and-loop closure means comprising a flap coupled to a portion of the outer cover, one or more hook portions coupled to the flap, and one or more corresponding

loop portions coupled to another portion of the outer cover and provided to coupled with the hook portions of the flap.

7. The pipe blanket of claim 1, wherein the closure means
5 comprises a flap coupled to a portion of the outer cover, one or more notches formed in a portion of the outer cover, and one or more detents formed in the flap, and wherein each notch is formed to receive a detent therein when the pipe blanket is wrapped around a pipe.

10 8. The pipe blanket of claim 1, wherein the closure means comprises a joint cover having an adhesive configured to be coupled to the outer cover of the pipe blanket to cover a seam of the outer cover between adjoining first and second ends of the outer cover formed when the pipe blanket is wrapped around a
15 pipe.

9. The pipe blanket of claim 1, wherein the closure means
comprises a joint cover including a body, a first set of barbs attached to the body and positioned to lie at an angle relative to the body different from a substantially
perpendicular axis to the body, and a second set of barbs attached to the body and
20 positioned to lie at another angle relative to the body and different from the substantially perpendicular axis to the body, and wherein the first and second set of barbs are configured to be received at least partially through the outer cover of the pipe blanket to cover a seam formed when the pipe blanket is wrapped around a pipe.

25 10. The pipe blanket of claim 1, wherein the closure means comprises an adjustable strap configured to encircle the outer cover of the pipe blanket when the insulation mat and outer cover of the pipe blanket are wrapped around a pipe.

30 11. The pipe blanket of claim 10, wherein the outer cover includes a channel positioned to lie along a width of the outer cover, and wherein the closure means comprises a drawstring positioned within the channel of the outer cover.

12. The pipe blanket of claim 1, wherein the outer cover is tear-resistant and includes a reinforced laminate layer.

5 13. A pipe blanket for wrapping around and insulating a pipe comprising
an insulation mat having an outer surface and an inner surface adapted to lie adjacent the pipe when the pipe blanket is wrapped around the pipe, and
an outer cover coupled to the outer surface of the insulation mat,
10 wherein the insulation mat further includes an inner region having a first density and formed to define the inner surface and an outer region coupled to the inner region, formed to define the outer surface, and having a second density greater than that of the first density.

15 14. The pipe blanket of claim 13, wherein the first density is approximately 0.3-1.0 lb/ft³ and the second density is approximately 0.7-2.5 lb/ft³.

15 15. The pipe blanket of claim 13, wherein the insulation mat has a total thickness of approximately 2 to 4 inches and the inner region of the insulation
20 mat has a thickness of approximately 25 to 75 percent of the total thickness of the insulation mat.

25 16. The pipe blanket of claim 13, wherein the insulation mat includes a middle region positioned between the inner and outer regions and includes
a third density higher than the first density and lower than the second density.

 17. A pipe blanket for wrapping around and insulating a pipe comprising
an insulation mat having an outer surface and an inner surface adapted
30 to lie adjacent the pipe when the pipe blanket is wrapped around the pipe, and
an outer cover coupled to the outer surface of the insulation mat,

wherein the insulation mat further includes an inner region having a first fiber orientation and formed to define the inner surface and an outer region coupled to the inner region, formed to define the outer surface, and having a second fiber orientation different from the first fiber orientation.

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18. The pipe blanket of claim 17, wherein the inner region of the insulation mat is pleated to form a plurality of pleats forming ripples in the inner surface of the insulation mat.

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19. The pipe blanket of claim 18, wherein each pleat of the inner region of the insulation mat is approximately 0.5 to 5.0 inches wide.

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20. The pipe blanket of claim 17, wherein inner region comprises a plurality of fibers oriented to lie substantially in a vertical plane and the outer region comprises a plurality of fiberglass fibers oriented to lie substantially in a horizontal plane.

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21. A fibrous insulating blanket comprising
an insulation mat having an outer surface and an inner surface adapted
to enclose the pipe when the pipe blanket is wrapped around the pipe, and
an outer cover coupled to the outer surface of the insulation mat,
wherein the insulation mat includes a plurality of pleats formed
therein.

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22. The insulating blanket of claim 21, wherein the insulating blanket is configured for insulating a pipe.

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23. The insulating blanket of claim 21, wherein the insulating blanket is configured for insulating a component from the group comprising vessels, tanks, valves, fittings, ducts, tubes, and supports.

24. A method for forming a textured fibrous insulation mat comprising the steps of

preparing the insulation mat by coating glass fibers with a resin binder,
providing heat to a portion of a surface of the insulation mat to
5 partially cure the resin binder in a pre-determined pattern, and
subsequently curing the insulation mat.

25. The method of claim 24, wherein the heat is provided by hot air
jets.

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26. The method of claim 25, wherein the heat is provided linearly
across the insulation mat to provide pleats.

27. A method for forming a conformable insulation mat formed to
15 be wrapped about a pipe comprising the steps of
forming pleats within the insulation mat,
setting the pleats within the insulation mat, and
curing the insulation mat.

28. The method of 27, wherein forming the pleats includes emitting
20 air jets onto the insulation mat.

29. The method of claim 28, wherein the air jets emit hot air.

25 30. The method of claim 28, wherein the air jets emit cool air.

31. The method of claim 28, wherein setting the pleats includes
passing the insulation mat under a plurality of rotating disks.